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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,767	09/29/2003	Shinichiro Takami	O11.2B-11336-US01	2475

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EXAMINER

MARCHESCHI, MICHAEL A

ART UNIT PAPER NUMBER

1755

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/673,767

Applicant(s)

TAKAMI, SHINICHIRO

Examiner

Michael A Marcheschi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/8/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 12 and 18-20 are indefinite as to the phrase "are smaller" (both occurrences) because the examiner is unclear as to what they are smaller than, in terms of size, thus rendering the scope of the claim unclear. The limitations are not defined in a clear and concise manner.

The other claims are indefinite because they depend on indefinite claims.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over either (1) Tredinnick et al., (2) Inoue et al. (672), or (3) Tsuchiya et al.

Tredinnick et al. teach in the abstract, column 2, line 13-column 4, line 25 and the claims, a polishing composition for polishing wafers which comprises silica (reads on colloidal silica because the size (submicron) defined by the reference reads on colloidal and is within the claimed average particle size), an alkaline component, a water soluble polymer (used in the claimed amounts) and water.

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Inoue et al. (672) teach in the abstract and sections [0020]-[0047], a polishing composition for polishing wafers which comprises silica (colloidal silica having the claimed average particle size), an alkaline component, a water soluble polymer (used in the claimed amounts) and water.

Tsuchiya et al. teach in the abstract and sections [0026]-[0041] and [0052], a polishing composition for polishing wafers which comprises silica (colloidal silica having the claimed average particle size), an alkaline component, a water soluble polymer (used in the claimed amounts) and water.

The references teach all of the claimed components in the polishing composition, wherein the silica has the claimed average particle size. Although the references are silent with respect to the D_{95} and D_5 values, as well as the ratio thereof, it is the examiners position that from the particle size range defined by the references, the silica's can have D_{95} and D_5 values and corresponding ratios that can fall within the claimed limitation of "no more than 3.8". This is apparent because of the broad range disclosed by the references which would inevitably encompass particles having D_{95} and D_5 values and these values, when calculated in terms of a ratio, can also meet the claimed limitations in the absence of any evidence showing the contrary **(evidence showing that the claimed ratio is critical)**. The same reasoning is apparent for the $D_{95}/D_5/D_{SA}$ ratio.

Claims 1-8 and 10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki.

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Sasaki teaches in the abstract, column 2, lines 60-68, column 21, line 9-column 22, line 10 and the claims, a polishing composition for polishing wafers which comprises silica (colloidal silica having the claimed average particle size), an alkaline component, a water soluble polymer (used in the claimed amounts) and water.

The reference teaches all of the claimed components in the polishing composition, wherein the silica has the claimed average particle size. Although the reference is silent with respect to the D_{95} and D_5 values, as well as the ratio thereof, it is the examiners position that from the particle size range defined by the reference, the silica can have D_{95} and D_5 values and corresponding ratios that can fall within the claimed limitation of "no more than 3.8" This is apparent because of the broad range disclosed by the reference which would inevitably encompasses particles having D_{95} and D_5 values and these values, when calculated in terms of a ratio, can also met the claimed limitations in the absence of any evidence showing the contrary **(evidence showing that the claimed ratio is critical)**. The same reasoning is apparent for the $D_{95}/D_5/D_{SA}$ ratio.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki, as applied to claim 1 above and further in view of Tsuchiya et al.

It is the examiners position that it would have been obvious to use hydroxyethyl cellulose in the composition according to the primary reference because this component is a known water soluble polymer, as shown by the secondary reference, and the substitution of one water soluble polymer for another that is to be used for the same purpose (polishing additive) is well within the level of ordinary skill in the art.

Claims 1-9 and 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (652).

Inoue et al. (652) teach in the abstract and column 4, line 1-column 5, line 60, a polishing composition for polishing wafers which comprises silica (colloidal silica having the claimed average particle size), an alkaline component, a water soluble polymer and water.

The reference teaches all of the claimed components in the polishing composition, wherein the silica has the claimed average particle size. Although the reference is silent with respect to the D_{95} and D_5 values, as well as the ratio thereof, it is the examiners position that from the particle size range defined by the reference, the silica can have D_{95} and D_5 values and corresponding ratios that can fall within the claimed limitation of "no more than 3.8" This is apparent because of the broad range disclosed by the reference which would inevitably encompasses particles having D_{95} and D_5 values and these values, when calculated in terms of a ratio, can also met the claimed limitations in the absence of any evidence showing the contrary **(evidence showing that the claimed ratio is critical)**. The same reasoning is apparent for the $D_{95}/D_5/D_{SA}$ ratio.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (652), as applied to claim 1 above and further in view of Tsuchiya et al.

It is the examiners position that it would have been obvious to use the cellulose or water soluble polymer in the composition according to the primary reference in the amount disclosed

by the secondary reference because this amount is a conventional amount for this component and the use of any conventional amount is well within the level of ordinary skill in the art.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over either (1) Koichi et al. or (2) Hagihara et al. or (3) Oshima all in view of Tsuchiya et al.

Koichi et al. teach in the abstract, the figures, sections [0015]-[0017], [0047]-[0059] and the claims, a polishing composition for polishing wafers which comprises silica (colloidal silica having the claimed average particle size), an alkaline component, a thickener and water.

Hagihara et al. teach in the abstract and column 4, line 5-column 8, line 55, a polishing composition for polishing wafers which comprises silica (colloidal silica having the claimed average particle size), an alkaline component, a thickener and water.

Oshima teaches in the abstract and sections [0025]-[0063], a polishing composition for polishing wafers which comprises silica (colloidal silica having the claimed average particle size), an alkaline component, a thickener and water.

The references teach that a thickener can be used in the compositions and although it is not literally stated that this is a water soluble polymer, this limitation is obvious because the secondary reference teaches that thickeners are generally water soluble polymers. In other words, the use of a water soluble polymer would have been obvious because these are known thickeners, as shown by the secondary reference, and thickeners are known to be added to the compositions of the primary references, as is clearly disclosed. With this being obvious, all of the claimed components in the polishing composition are disclosed, as well as, the claimed average particle size of the silica. Although the references are silent with respect to the D₉₅ and

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D₅ values, as well as the ratio thereof, it is the examiners position that from the particle size range **and the D₉₀ and D₁₀** values defined by the references, the silica can have D₉₅ and D₅ values and corresponding ratios that can fall within the claimed limitation of “no more than 3.8” This is apparent because of the broad range disclosed by the references which would inevitably encompasses particles having D₉₅ and D₅ values and these values, when calculated in terms of a ratio, can also met the claimed limitations in the absence of any evidence showing the contrary **(evidence showing that the claimed ratio is critical)**. The same reasoning is apparent for the D₉₅/D₅/D_{SA} ratio. With respect to the amount of water soluble polymer (thickener), it is the examiners position that it would have been obvious to use thickener (water soluble polymer) in the composition according to the primary reference in the amount disclosed by the secondary reference because this amount is a conventional amount for this component and the use of any conventional amount is well within the level of ordinary skill in the art.

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

“A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968)”. In addition, “A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments” See *In re Van Marter*, 144 USPQ 421.

"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976)".

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548. Evidence of unexpected results must be commensurate in scope with the subject matter claimed. *In re Linder* 173 USPQ 356.

The references cited on the 1449 have been reviewed by the examiner and are considered to be art of interest since they are cumulative to or less than the art relied upon in the above rejections.

Any foreign language documents submitted by applicant has been considered to the extent of the short explanation of significance, English abstract or English equivalent, if appropriate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

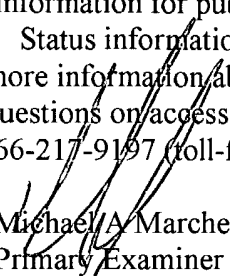
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

9/04

MM


Michael A. Marcheschi
Primary Examiner
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